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February 22, 2006

Ex Parte

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

**Re: Petition of the Verizon Telephone Companies for Forbearance under 47 U.S.C.
§ 160(c) from Title II and Computer Inquiry Rules with Respect to Their Broadband
Services, WC Docket 04-440**

Dear Ms. Dortch:

Yesterday, Verizon met with the Wireline Competition Bureau regarding the above proceeding. Representing Verizon were Will Johnson, Mike Devecchia, Mike Tighe, Tom Maguire, Scott Randolph and me. Attending from the FCC were Adam Kirschenbaum, Renee Crittendon, Gail Cohen, Ben Childers, Jodie May, Bill Kehoe, and Bill Dever. The material attached was reviewed at the meeting.

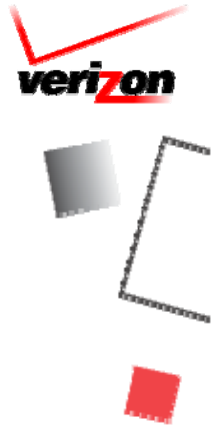
Please let me know if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Dee May". The signature is written in a cursive, flowing style.

Attachment

cc: T. Navin
I. Dillner
G. Cohen
B. Childers
R. Crittendon
W. Dever
W. Kehoe
A. Kirschenbaum
M. Maher
J. May
J. Miller



Verizon Fast Packet Services



Partnership



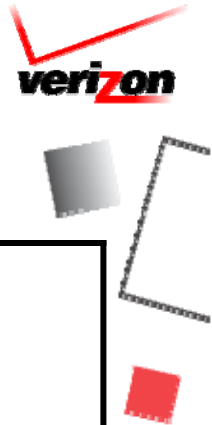
Reliability



Connectivity



Solutions



Verizon Fast Packet Services

Frame Relay: Packet-switched services with pre-established virtual circuits connecting end-points	Good for: <ul style="list-style-type: none">■ Regional and national LAN connectivity■ Legacy data (SNA, etc.) protocols Not ideal for: <ul style="list-style-type: none">■ Real-time data like voice or video■ Fully meshed networks
Asynchronous Transfer Mode (ATM): Cell based service with QoS (quality of service) commitments and options of both pre-established (PVC) and switched (SVC) virtual circuits	Good for: <ul style="list-style-type: none">■ Regional and national LAN connectivity■ Real-time data: voice & video traffic■ Fully meshed networks■ Disaster Recovery■ Closed networks of business partners, suppliers, customers



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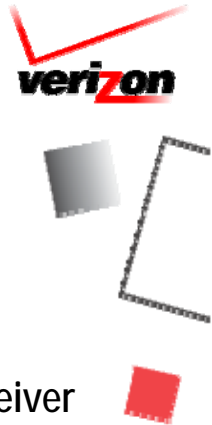
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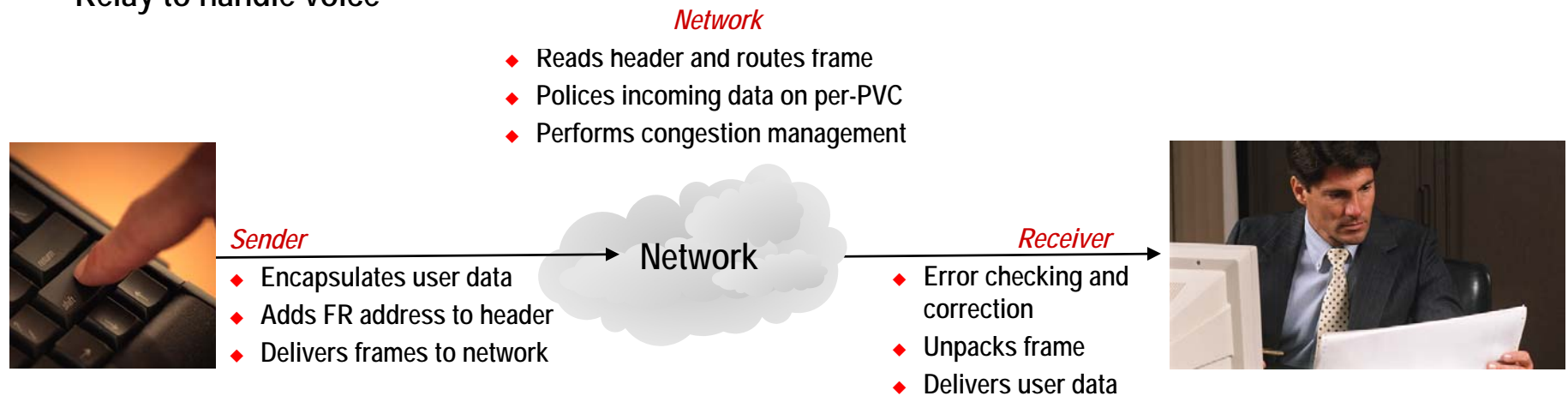


Solutions



Verizon Frame Relay

- ◆ A connection-oriented data service for speeds up to 45 Mbps that uses permanent virtual connections (PVCs) between predetermined end-points
- ◆ Data is broken up into variable size packets (frames) that travel over a PVC from sender to receiver
- ◆ Suited for high-speed, bursty LAN interconnection applications and legacy data (e.g., IBM's SNA or mainframe), but does not handle real-time applications like video well
- ◆ Controlling the network parameters (compression, CIR and number of users) does allow Frame Relay to handle voice



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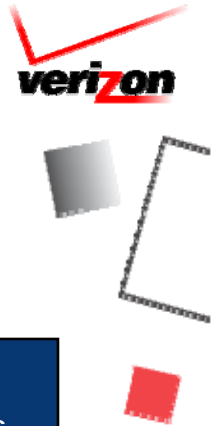


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Verizon Frame Relay: Sample Application for a Regional Company

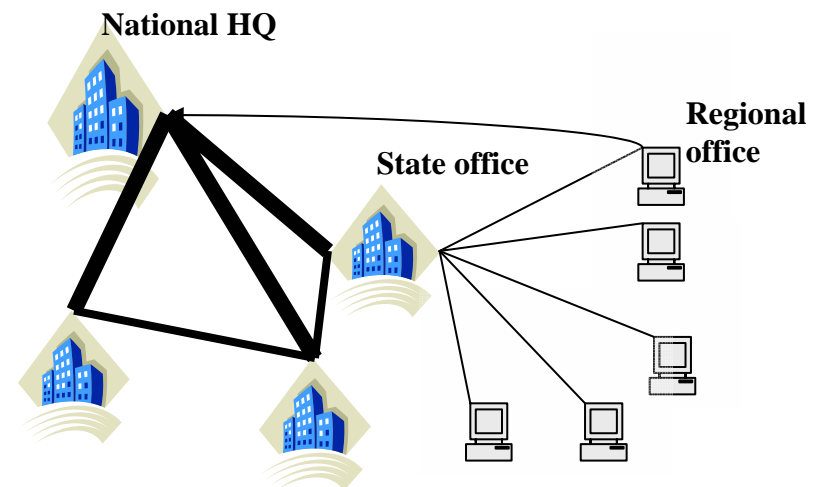


Each branch office needs to communicate with its specific district office and the national headquarters, but usually not with any other branch offices

- ◆ 1 national headquarters (22 Mbps data link)
- ◆ 4 district offices (1.536 Mbps links)
 - CIR: Each district office has a 512 Kbps PVC to each other district office and a 768 Kbps PVC to the national headquarters
- ◆ 20 branch offices (384 Kbps links)
 - CIR: 256 Kbps PVC from each branch office to its district office and the national headquarters

Top frame relay applications

- ◆ Internet e-mail and Web access
- ◆ ERP/CRM/business applications
- ◆ Interconnection of LANs
- ◆ File sharing, transfers & backup
- ◆ Point of sale (retail)



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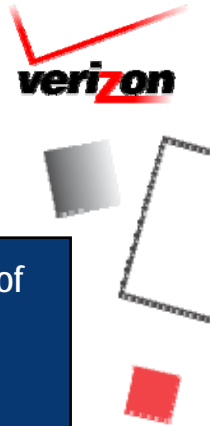
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Asynchronous Transfer Mode (ATM)

- ◆ Flexibility for meeting rapidly growing bandwidth requirements and consolidating existing networks
- ◆ Ideal for LAN/WAN—as well as voice, video and streaming data
- ◆ Allows both switched (SVC) and permanent (PVC) virtual connections
- ◆ Any type of communication can be multiplexed into an ATM transmission
- ◆ ATM speeds are available from 1.544 Mbps to 622 Mbps
- ◆ Fixed-size cells allow switching process to be optimized for the lowest latency and highest throughput in the fast packet portfolio

ATM forms the backbone of Verizon's network and provides the transport support for Verizon's own voice and data services



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Verizon ATM

Quality of Service (QoS)

- ◆ ATM designed to support real-time data like voice, streaming media, images and video by offering several classes of service:
 - Constant Bit Rate - Great for full-time video or voice
 - Variable Bit Rate - real time - Great for digital video or compressed voice traffic
 - Variable Bit Rate - non-real time (VBR-nrt) - Great for high quality data transfer with limited re-transmissions
 - Unspecified Bit Rate (UBR) - A best effort service with no performance guarantees. Enables the data to burst to the full line rate of the port, and if the bandwidth is not being used by other, higher priority applications, the cells will be forwarded

ATM Elements

- ◆ Customer elements
 - Bundled port and access
 - 1.544 Mbps
 - 45 Mbps
 - 155 Mbps either direct fiber or SONET
 - 622 Mbps direct fiber—available on limited basis
 - CPE: devices that support ATM, such as router with ATM interface card or ATM switch
 - Network Management Systems
- ◆ Very reliable Verizon transport backbone
 - SONET rings
 - ATM switches
 - Network monitoring



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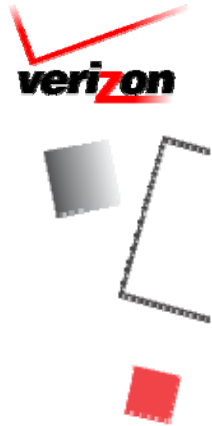
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Verizon Optical Services



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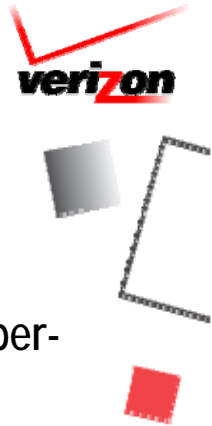
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Verizon SONET Point-to-Point Services

- ◆ IntelliLight Broadband Transport (IBT)
 - Point-to-point OC-3, OC-12, OC-48 and OC-192 service which provides fiber-based full duplex transmission capabilities
 - Shared SONET facilities
 - Optional fiber path diversity for local loop and IOF
 - Optional port protection

- ◆ Custom Connect
 - Point-to-point OC-3, OC-12, OC-48 and OC-192 service which provides fiber-based full duplex transmission capabilities
 - Dedicated or shared IOF transport
 - Uses customer dedicated OC-n links with single and diverse fiber routing
 - Optional port protection



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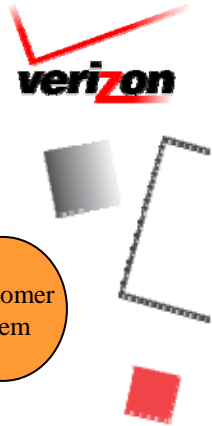
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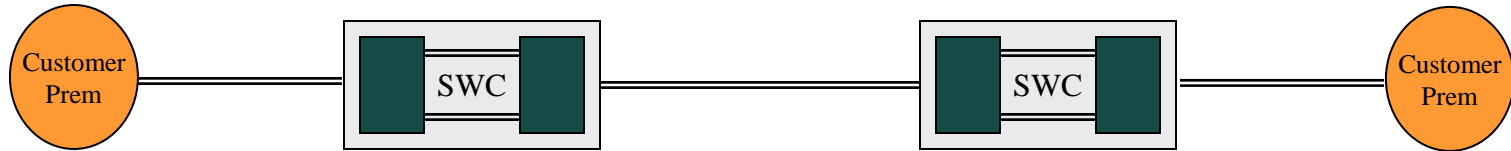


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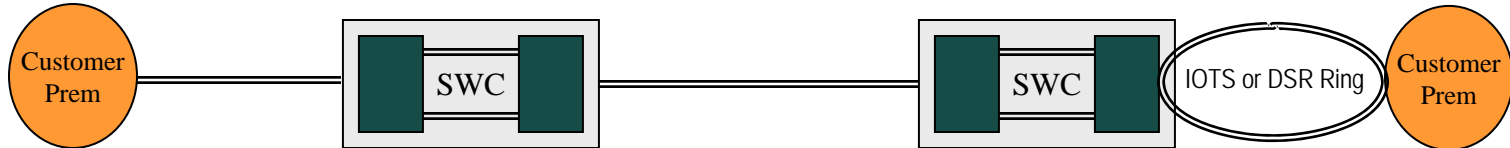


SONET Point to Point Sample Applications

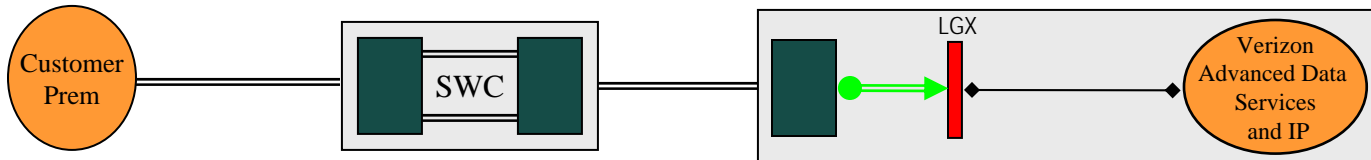
Customer Premises to Premises



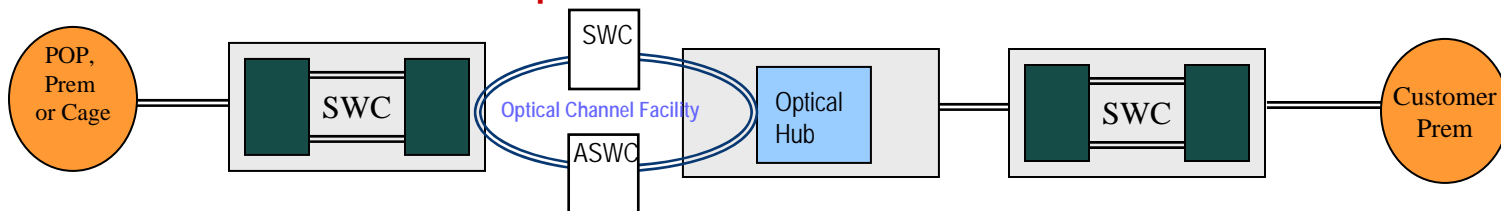
Customer Premises to Customer Premises on a Ring



Customer Premises Connection to Verizon Advanced Data or IP Services



Customer Premises Connection to Optical Hub



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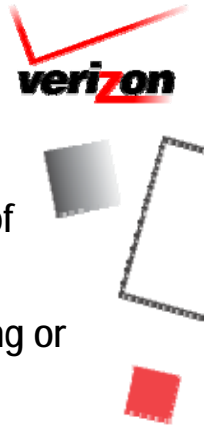
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Verizon IntelliLight Optical Transport Service (IOTS)

- ◆ Utilizes dense wave division multiplexing (DWDM) and provides managed optical transport of multiple protocols over a dedicated, high capacity customized fiber network
- ◆ Configured in a diversely routed ring architecture and can be configured as a full (closed) ring or as a partial ring
- ◆ Allows for the native transmission of multiple high-speed protocols, such as Ethernet, SAN and SONET, with various bandwidths over a single customized network.
- ◆ The wavelengths are arranged in channels and the protocol transmitted over each channel is independent of every other channel on the IOTS ring. Channel interfaces include the following:
 - OC3-OC192
 - 10 Gigabit Ethernet LAN PHY/10 Gig WAN PHY
 - Gigabit Ethernet
 - Fast Ethernet
 - FICON, FibreChannel, ESCON
 - D1 Video
 - FDDI
- ◆ Protected and unprotected channels
- ◆ Customer Network Management – network monitoring and reports



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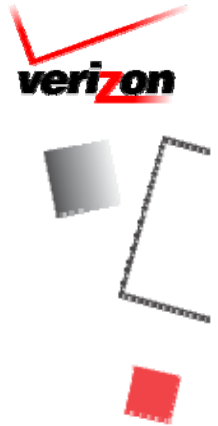
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IOTS Applications and Market Drivers

- ◆ LAN Interconnection
- ◆ Larger volumes of Data/Ethernet
- ◆ Storage Area Networking
 - Remote Data Backup and Restore
 - Point-in-time copy of data to a remote location and restoration of data in the event of disaster or loss
 - Remote Data Replication
 - Continuous copying of data to another location for data mirroring
 - Each location contains live, production data
 - Disaster Recovery
 - Recovery and restoration services for damaged, deleted or destroyed data, or site-wide disaster
 - Storage Hosting
 - Outsourced primary data storage and storage on demand at an off-site storage facility
 - Managed Storage
 - Data administration and management provided as an outsourced service



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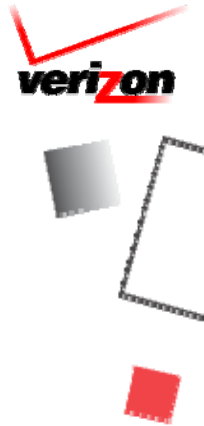
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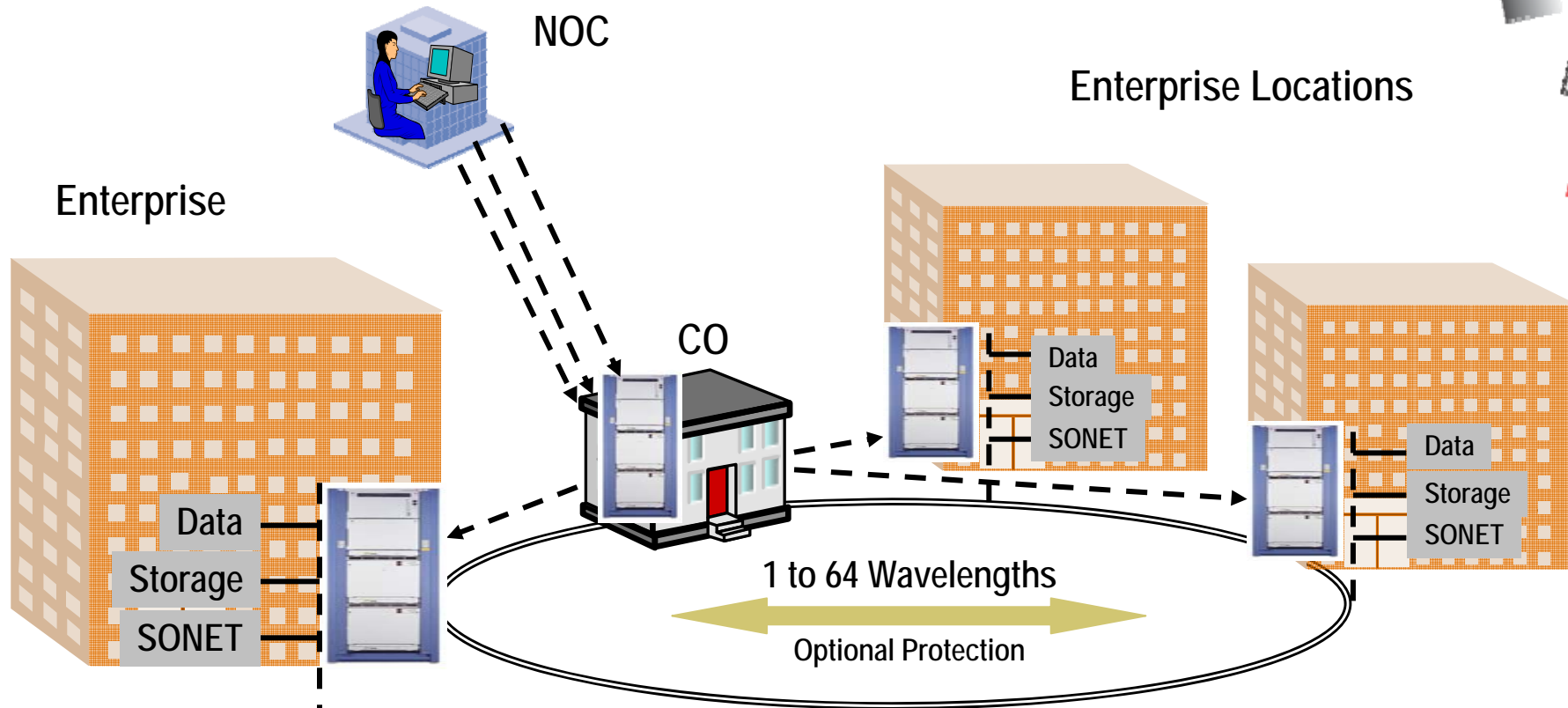
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IOTS Sample Application



- Addresses rapidly growing data needs
- Control costs
- Boost efficiency
- Enhance data security
- Highly reliable, scalable, and cost-effective



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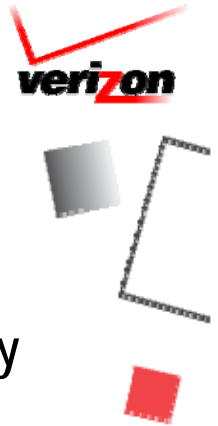
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Optical Hubbing Service (OHS)

- ◆ Point to Point CWDM service offered as an Extended Entrance Facility
- ◆ Provides a dedicated high capacity optical facility for the transmission of up to eight (8) optical connections between a customer's designated premises and an optical hub
- ◆ Provides 4 SONET services across a single path
- ◆ Optical hub is a Verizon wire center assigned to OHS where optical connections to OHS occur
- ◆ Utilizes high capacity optical facilities configured in a ring architecture that provides survivability
- ◆ Intended to be combined with other SONET and Ethernet services



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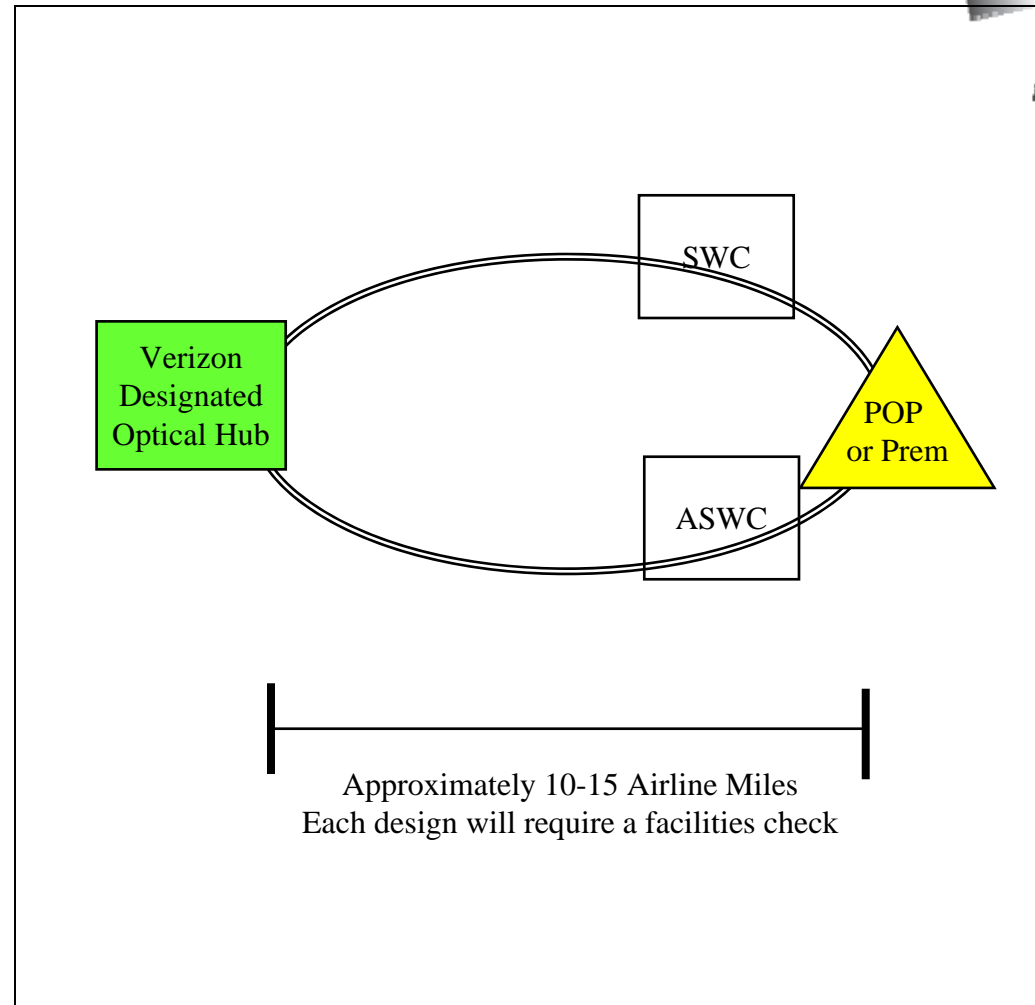
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Verizon OHS

- ◆ Requires diversely routed fiber facilities
 - 500ft. / 25ft. rule
- ◆ Each proposed OHF will require a facility check to ensure that the Hub and POP/Prem are within the optical parameters
 - Approx. 10-15 Airline miles
- ◆ Only protected circuit designs permitted



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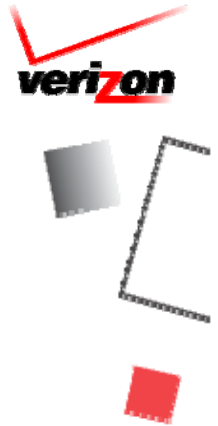
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Verizon Optical Networking

Transparent LAN

IP-VPN



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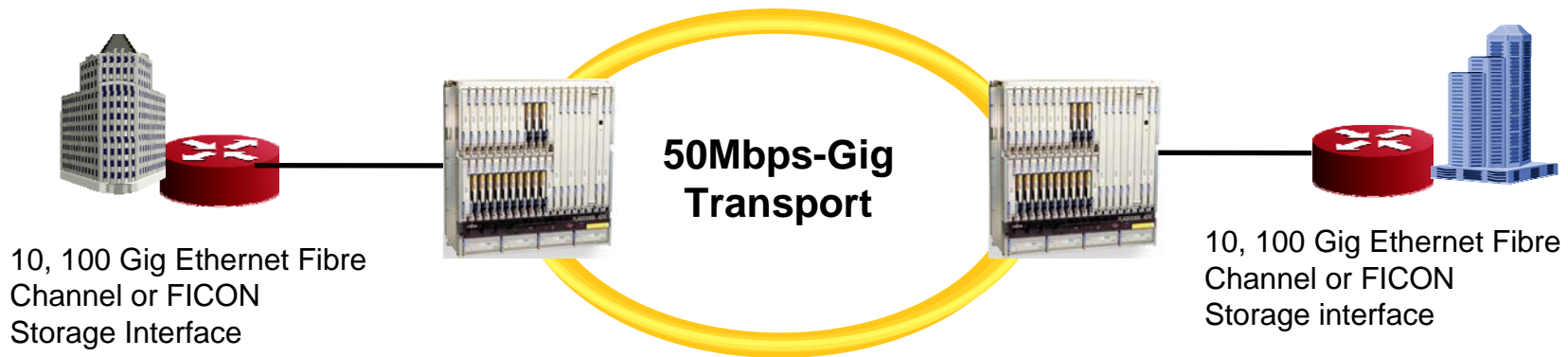
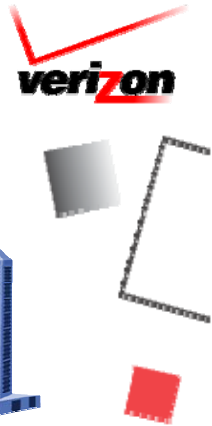


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Verizon Optical Network Architecture



Verizon Metro SONET Infrastructure

- ◆ Verizon Optical Network meets the key needs of an customers requiring a highly available point to point Ethernet or Storage connection between two locations.
 - A highly reliable Point-to-Point Ethernet & Storage connection based on SONET infrastructure
 - 10, 100 & Gig Ethernet interfaces with scalable bandwidth options including: 50Mbps, 100Mbps, 150Mbps, 300Mbps, 450Mbps, 600Mbps, 1000Mbps
 - Fibre Channel and FICON Storage Interfaces.
 - Alternate fiber path routing options for increased reliability and availability
 - Strict Operational Service Level Agreements



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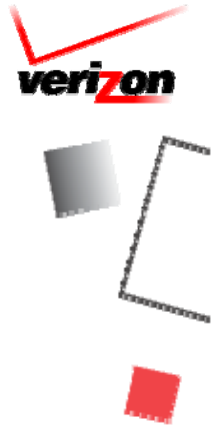
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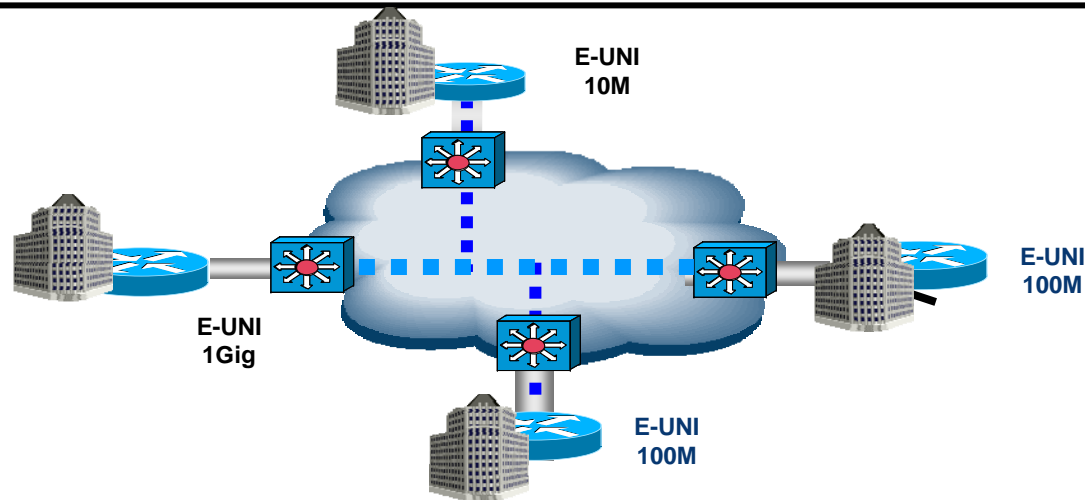
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Verizon Transparent LAN Service Overview



- ◆ Verizon Transparent Service meets the key LAN to LAN connectivity and Convergence requirements of Enterprises.
 - 10 Meg, 100 Meg and Gigabit Ethernet Interfaces Supported.
 - Single or Redundant Fiber Options for greater availability
 - Granular bandwidth options from 1Mbps to 1000Mbps for maximum scalability.
 - Connection oriented (EVC) or fully meshed architectures supported through Ethernet Multipoint Service or Ethernet Relay Services.
 - Class of Service Options including basic data, priority data and real time communications to enable Converged Applications.



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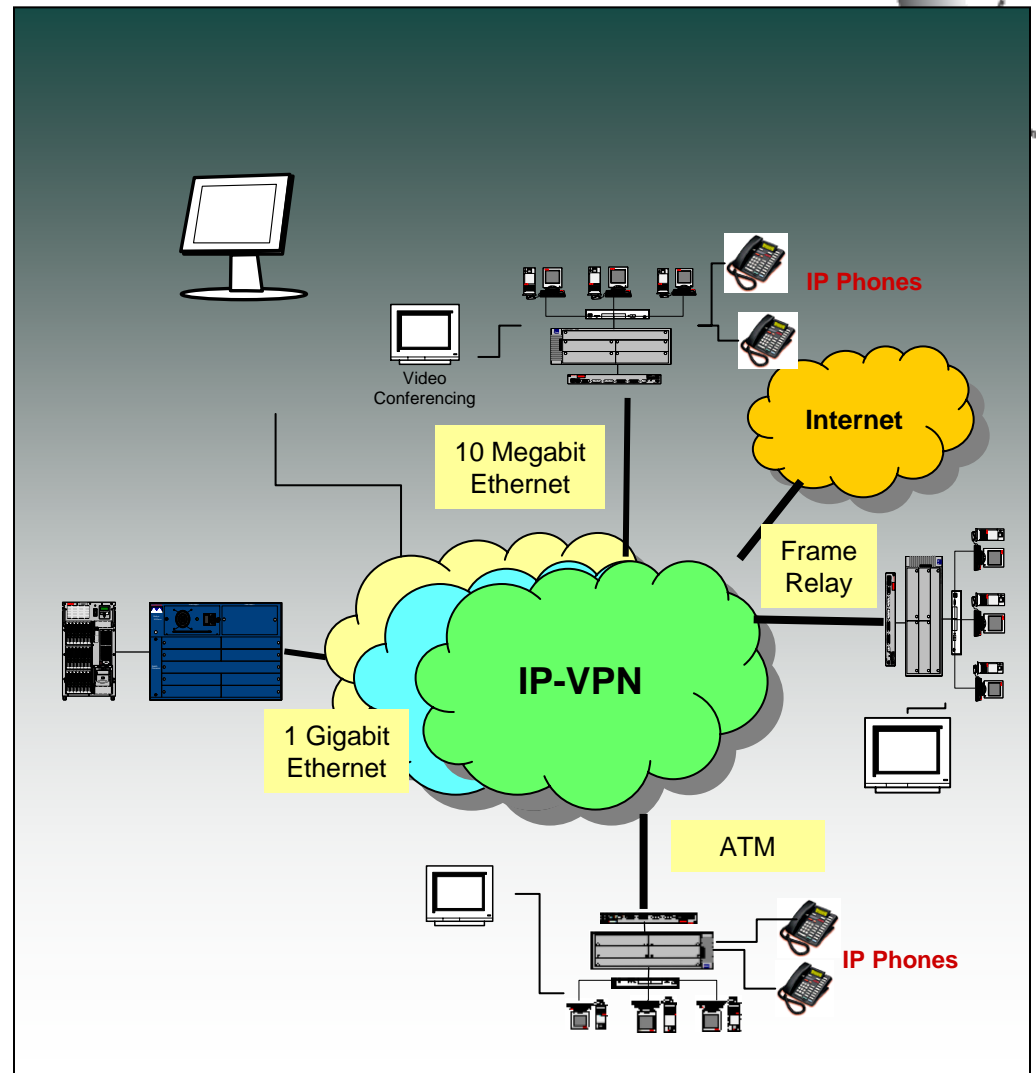
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Verizon IPVPN Customer Benefits

- Freedom to Choose the best network access at each site.
- Performance based SLA's to support converged applications
- Architecture that scales with customer requirements up to 1 Gig.
- IT Cost Reduction through server consolidation.
- Elimination of complex meshed network topologies with network based IP routing.
- Enables advanced IP applications such as VOIP, and IP Video on a QOS aware network architecture.
- Support for Cisco EIGRP routing



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